

**City of Kinston**  
**PWSID # 04-54-010**  
**2009 Water Quality Report**

**Where Does Our Water Come From?**

The City of Kinston is pleased to present to you this year's Annual Water Quality Report. This report is designed to inform you about the quality of water and services that we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

Historically, our water source has been ground water which is drawn from the Black Creek and Upper Cape Fear Aquifers. In September, 2008, the City of Kinston began purchasing a portion of our drinking water from the Neuse Regional Water and Sewer Authority (NRWASA). NRWASA withdraws water from the Neuse River, provides treatment to meet water quality standards, and delivers the treated water to its members, including the City of Kinston. The City is purchasing water from NRWASA due to restrictions on our use of groundwater as a water supply under the Central Coastal Plain Capacity Use Area regulations.

**How is Our Water Treated?**

Water produced from our groundwater wells is treated using chloramines, which is a combination of chlorine and ammonia. This treatment is performed to disinfect the water. Water produced by NRWASA is treated using chloramines for disinfection, plus several other treatment processes to address other water quality parameters, including turbidity, total organic carbon, and others.

**Would You Like To Know More?**

We want our valued customers to be informed about their water utility. If you have any questions about this report or concerning your water utility, please contact Joey Pittman at (252) 939-3282. You may also attend any of the regularly scheduled City Council meetings, held on the 1<sup>st</sup> and 3<sup>rd</sup> Monday night of each month in the council chambers at 207 E. King St at 7:00pm or the Utility Advisory Commission meetings on the first Wednesday of each month at 5:00 pm at the Public Service Complex. Information on water provided by the Neuse Regional Water and Sewer Authority may be obtained by calling NRWASA at (252) 522-2567.

**Terms & Abbreviations**

In this table you will find many terms and abbreviations that you might not be familiar with. To help you better understand these terms, we have provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Picocuries per liter (pci/L) - picocuries per liter is a measure of the radioactivity in water.

Action Level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal - The "Goal"(MCLG) is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**Contaminants and MCLs**

The City of Kinston routinely monitors for over 100 contaminants in your drinking water according to Federal and State laws. The tables below show the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2009 and the last test results of contaminants that were not due to be tested in 2009. Results of testing performed by NRWASA are included at the end of this report.

As water travels over the land or underground it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be

reasonably expected to contain at least small amounts of some contaminants. It is important to remember that the presence of these contaminants does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline at 800-426-4791**.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

ANNUAL WATER QUALITY TEST RESULTS						
Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants 2009</b>						
Total Coliform Bacteria	N	0	Present or Absent	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment

Contaminant (units)	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contaminants
<b>Inorganic Contaminants February, 2009</b>						
Fluoride (ppm)	N	0.20	ND 0.20	4	4	Erosion of natural deposits; water additive to help promote strong teeth; discharge from fertilizer and aluminum factories
<b>Volatile Organic Contaminants May and October, 2009</b>						
Xylene (ppm)	N	.0025	ND 0.0025	10	10	Discharge from petroleum factories; discharge from chemical factories
<b>Disinfection By-Product Contaminants</b>						
TTHM (ppb) [Total Trihalomethanes]	N	68.5	30 84	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids]	N	31.3	10.3 47.5	N/A	60	By-product of drinking water chlorination

Asbestos Contaminant						
Contaminant (Units)	Sample Date	MCL Violation Y/N	Range Low High	MCLG	MCL	Likely Source of Contamination
Total Asbestos (MFL)	07-20-05	N	ND - .17	7	7	Decay of asbestos cement water mains; erosion of natural deposits

Lead and Copper Contaminants						
Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	11-6-2009	.149	0	1.3	AL= 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) (90 <sup>th</sup> percentile)	11-6-2009	N/D	2	0	AL= 15	Corrosion of household plumbing systems, erosion of natural deposits

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Kinston is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

The following table lists the monitoring results of unregulated contaminants. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. If you would like more information on unregulated chemicals you may call the Safe Drinking Water Hotline (800-426-4791).

<b>Unregulated Inorganic Chemicals</b>		<b>February, 2009</b>		
Chemical	Your Water	Range		Proposed MCL
		Low	High	
Sulfate (ppm)	7.75	ND	14.6	500

<b>Water Characteristics Contaminants</b>		<b>February, 2009</b>		
Contaminants (units)	Your Water	Range		Secondary MCL
		Low	High	
Iron (ppm)	0.025	ND	0.164	0.3
Manganese (ppm)	0.005	ND	0.030	0.05
Sodium (ppm)	35.11	5.87	51.00	N / A
pH	8.09	7.6	8.7	N / A

As you can see by the tables, all of the contaminants tested were within allowable limits. We're proud that your drinking water meets or exceeds all state and federal requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water is safe at these levels.

#### **Special Health Concerns**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiologicals are available from the Safe Drinking Water Hotline (**800-426-4791**).

#### **Source Water Assessment Program ( SWAP Results)**

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessment was to determine the susceptibility of each drinking water source ( well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for the **CITY OF KINSTON** was determined by combining the contaminant rating ( number and location of PCSs within the assessment area) and the inherent vulnerability rating ( i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.) The assessment findings are summarized in the table below.

#### **Susceptibility of Water Sources to Potential Contaminant Sources (PCSs)**

The complete SWAP Assessment Report for the **CITY OF KINSTON** may be viewed on the web at : <http://www.deh.enr.state.nc.us/pws/swap> To obtain a printed copy of this report, please mail a written request to : Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap @ ncmail.net. Please give your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-715-2633. It is important to understand that a susceptibility rating of " higher " does not imply poor water quality, only the systems potential to become contaminated by PCSs in the assessment area.

<b>Water Source Name</b>	<b>Susceptibility Rating</b>
Wells 1,3,4,6,7,9-11,14,17,19	Moderate

Wells 5,8,12,13,15,18,20,21,16	Lower
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**Conclusion**

Please call our office if you have questions:

Telephone # **(252) 939-3282**

Contact person - Joey Pittman

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

We ask that all our customers help us protect our water resources, which are the heart of our community, our way of life and our children's future.

Testing results reported by the Neuse Regional Water and Sewer Authority for water we purchase from them are shown below:

**Neuse Regional Water and Sewer Authority  
2009 Detected Contaminants**

**Disinfection Byproduct Precursors Contaminants**

Contaminants (units)	TT Violation (Y/N)	Your Water (RAA Removal Ratio)	Monthly Removal Ratio Range Low-High	MCL G	MCL	Likely Source of Contamination	Compliance Method
Total Organic Carbon (Removal Ratio) Treated	N	1.34	1.19-1.50	N/A	TT	Naturally present in the environment	Step 1

Note: Depending on the TOC in our source water, the system MUST have a certain % removal of OTC or must achieve alternative compliance criteria. If we do not achieve that % removal, there is an alternative % removal. If we fail to meet the alternative % removal, we are in violation of a Treatment Technique.

**Unregulated Inorganic Contaminants**

Contaminants (units)	Sample Date	Your Water	Range High - Low	Secondary MCL
Sulfate (ppm)	10/12/2009	35.2	35.2	250

**Water Characteristics Contaminants**

Contaminants (units)	Sample Date	Your Water	Range High - Low	Secondary MCL
Sodium	10/12/2009	31.10	N/A	N/A
pH	10/12/2009	7.6	N/A	6.5 to 8.5

**Turbidity (NTU)\***

Contaminants (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Sources of Contamination
Turbidity (NTU)	N	0.25	N/A	TT = 1 NTU	Soil Runoff
		100%		TT = % of samples ≤ 0.3 NTU	

\*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The Turbidity Rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.